



BUDGET PRIMER

APRIL | 2023

CBO Describes Its Cost-Estimating Process

The Congressional Budget Act of 1974, often called the Budget Act, established the House and Senate Committees on the Budget to set broad federal tax and spending policy. To support those committees in carrying out their responsibilities, it also established the Congressional Budget Office and required CBO to prepare estimates of the cost of legislation at certain points in the legislative process. Various provisions in that act—primarily sections 202, 402, and 424—govern CBO’s preparation of cost estimates.

Provisions in other budget laws—for example, section 257 of the Balanced Budget and Emergency Deficit Control Act of 1985—also contain instructions about how to project spending and revenues. In addition, CBO’s cost estimates are guided by precedent and rules that originated in budget resolutions, rules of the House or the Senate, and the 1967 *Report of the President’s Commission on Budget Concepts*. Other rules have been jointly developed by the House and Senate Budget Committees, the Office of Management and Budget, and CBO.

CBO’s cost estimates provide information that Members of Congress can use when considering how to vote on legislation and that the Congress can use as it implements rules and procedures when considering legislation that would affect the federal budget. However, CBO’s cost estimates are advisory only. They can—but need not—be used to enforce budgetary rules or targets. Moreover, CBO does not enforce budgetary rules; the Budget Committees do. And, in keeping with its mandate to provide objective, impartial analyses, CBO never makes recommendations in its cost estimates or other products.

This document provides answers to questions that CBO [is frequently asked](#) about how it prepares cost estimates. CBO’s web page about [cost estimates](#) provides more information and access to completed estimates. For an explanation of key terms used throughout this report, see [Common Budgetary Terms Explained](#); for detailed definitions, see CBO’s [Glossary](#).

Note: This document is one in a series of primers explaining various elements of CBO’s work to support the budget process and to help the Congress make budget and economic policy. It updates and supersedes *How CBO Prepares Cost Estimates*, published in February 2018. This and other primers in the series are available on the agency’s website at www.cbo.gov/topics/budget/budget-concepts-and-process.

Contents

What Information Does a Cost Estimate Provide?	2
When Does CBO Produce a Cost Estimate?	2
Who Can Request a Cost Estimate?	3
How Are Cost Estimates Organized?	3
How Does CBO Develop Cost Estimates?	4
How Does CBO Ensure That Its Cost Estimates Are Thorough and Objective?	7
What Budgetary Effects Do Cost Estimates Identify?	7
What About Estimates of Revenues?	8
What Information Does CBO Provide for Appropriation Bills?	9
What Is Dynamic Analysis, and When Do Cost Estimates Include It?	9
What Creates Uncertainty in Cost Estimates?	10
Considering the Uncertainty in Cost Estimates, Why Does CBO Provide Point Estimates?	10
Does CBO Ever Revise Cost Estimates?	10
Why Might Cost Estimates for Similar Legislation Change Over Time?	10
Does CBO Provide Technical Assistance Concerning Legislative Proposals?	11

What Information Does a Cost Estimate Provide?

CBO's estimates show and explain legislative proposals' likely effects on federal outlays and revenues compared with what would occur under current law (that is, if the proposal was not enacted). In particular, cost estimates identify how legislation affects the three main components of the budget:

- Discretionary spending, which is controlled by annual appropriation acts;
- Mandatory (or direct) spending, which is governed by statutory criteria and usually is not constrained by the annual appropriation process; and
- Revenues, including taxes, fees, and fines collected by the Treasury or other agencies.

By long-standing convention, cost estimates do not include the effects of a bill on the costs of servicing federal debt.

For bills that would authorize discretionary activities or programs (which would have to be funded in subsequent legislation), cost estimates typically provide budgetary information for a 5-year period, as specified in the Budget Act. Provisions in other laws set the period at 10 years for bills that would affect mandatory spending or revenues.

As directed by the Budget Committees and by law, the estimates also identify whether enacting the bill would result in long-term budgetary consequences and whether it would impose mandates on state, local, or tribal governments or private-sector entities. The Congress can use that information to enforce various budgetary points of order.

For bills considered under a parliamentary procedure that allows the House of Representatives to set aside its normal rules upon considering legislation (that is, under suspension of the rules), CBO estimates the effects of those bills on mandatory spending and revenues but does not provide a full cost estimate.

When Does CBO Produce a Cost Estimate?

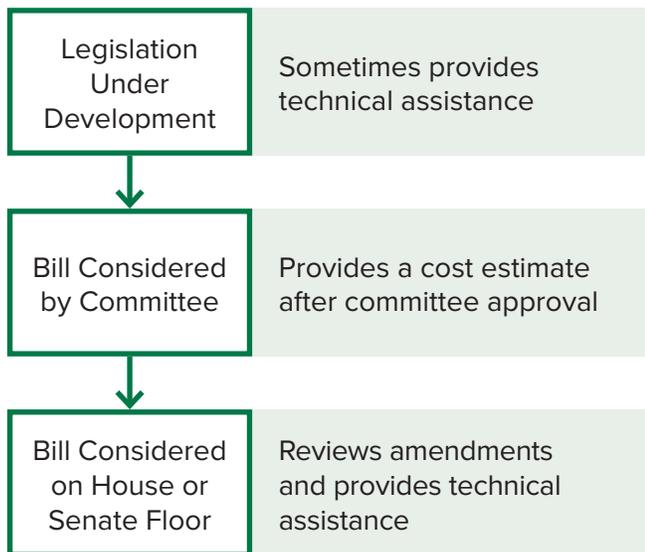
The Budget Act requires CBO to prepare a cost estimate after a committee orders authorization legislation to be reported for consideration by the full House or Senate. For appropriation bills, CBO provides information in a different form (see "What Information Does CBO Provide for Appropriation Bills?").

Most cost estimates are prepared for bills that have been ordered reported. Almost 90 percent of the roughly 700 cost estimates CBO typically produces in a year are for such bills; the rest are prepared for bills at other stages of the legislative process.

The time it takes to produce a cost estimate can vary depending on the complexity of a proposal, the availability of data, and Congressional priorities. Committees can facilitate a rapid turnaround of a cost estimate by informing CBO, as early as possible, when they intend to consider a bill and what changes (if any) they anticipate making to the bill. On average, it takes about two weeks for CBO to produce an estimate, although sometimes

Figure 1.

Technical Assistance and Cost Estimates Commonly Provided by CBO at Different Stages of the Legislative Process



estimates are produced the day they are ordered reported; it also can take several weeks or longer. Once an estimate is approved by CBO's Director, it is considered the agency's official analysis.

CBO also fulfills thousands of requests for technical assistance each year as committees are crafting legislation, as amendments to bills are being debated, and at other stages in the legislative process (see Figure 1).

Who Can Request a Cost Estimate?

The Budget Act directs CBO to give priority to committees—particularly the House and Senate Budget Committees. Statutory requirements for producing estimates were designed to ensure that CBO places the highest priority on preparing estimates for the legislation that is most likely to receive active consideration by the Congress.

Individual Members of Congress can ask CBO to assess the possible budgetary effects of a bill. If time allows, CBO's analysts provide those Members with preliminary feedback about a bill's effects on direct spending, usually by phone or email. If analysts cannot work on a request right away, the agency will provide a sense of whether and when they can.

How Are Cost Estimates Organized?

Cost estimates take different forms depending on the complexity of the bill and priorities of the Congress: long form, short form, and tables.

A long-form cost estimate summarizes the bill, describes its budgetary effects, analyzes mandates, and indicates any significant long-term consequences.¹ Long-form estimates include the following labeled sections:

- **At a Glance** briefly summarizes CBO's estimate of the bill's effects on major components of the federal budget. It includes general information such as the bill number, title, and legislative status, as well as budgetary and procedural information. The section also highlights the ways the bill would affect the federal budget and any uncertainties in the estimate.
- The **Bill Summary** lists the bill's major provisions, describes changes from current law, and summarizes the various elements and findings in the cost estimate.
- The section called **Estimated Federal Cost** describes CBO's estimate of the bill's budgetary effects and can include a table that lists, as appropriate, changes to direct and discretionary spending, revenues, and the federal deficit.
- The **Basis of Estimate** section highlights the probable timing of a bill's implementation, data sources, key elements of the analysis, and significant sources of uncertainty.
- **Pay-As-You-Go Considerations** are described as required by the Statutory Pay-As-You-Go Act of 2010 and accompanied, where appropriate, by a table that shows the estimated net change in the deficit arising from changes in on-budget direct spending or revenues.²
- A section titled **Increase in Long-Term Net Direct Spending and Deficits** identifies long-term effects (typically for any of the four consecutive 10-year periods beginning with the 11th year after enactment), as required by Congressional rules.

1. Congressional Budget Office, *CBO's Cost Estimates Explained* (February 2020), www.cbo.gov/publication/56166.

2. Congressional Budget Office, *The Statutory Pay-As-You Go Act and the Role of the Congress* (August 2020), www.cbo.gov/publication/56506. On-budget refers to all budgetary accounts except those designated by law as excluded from the budget totals. The revenues and outlays of the two Social Security trust funds and the transactions of the Postal Service are off-budget.

- A **Mandates** section, as required by the Unfunded Mandates Reform Act of 1995 (UMRA), identifies mandates on state, local, or tribal governments or the private sector and the costs to comply with them.
- When appropriate, a **Previous Estimate** section compares the current cost estimate with similar estimates provided during the same Congress, and an **Estimate Comparison** section compares CBO’s estimate with any estimates from the Administration or other sources when they are available (which is rare).
- The names of the analysts who prepared the estimate and of the managers who approved it also are listed.

For an uncomplicated bill with budgetary effects that are easily explained, CBO produces a short-form estimate. Those estimates are often no more than a page or two long and contain information on the same topics in the same order with the amount of detail necessary.

Occasionally, when time is short, a cost estimate may consist only of a table that lists the projected budgetary effects and short descriptions for one or a compilation of bills.³ With respect to amendments for floor consideration, given the often-tight deadlines, CBO may be able only to indicate whether an amendment would increase or decrease direct spending and revenues but not to quantify amounts. CBO may also publish its tables in Excel format in addition to PDF to make the data easier to use.

How Does CBO Develop Cost Estimates?

When it prepares cost estimates, CBO relies on section 257 of the Deficit Control Act and on a set of guidelines adopted formally as part of the conference report for the Balanced Budget Act of 1997.⁴ Their purpose is to ensure consistent treatment of spending authority and outlays across programs and over time. In addition, section 424 of UMRA requires every cost estimate for a reported bill to include a statement concerning intergovernmental

and private-sector mandates.⁵ Those statements are based on a set of principles that have evolved over the past two decades.

CBO’s analysts generally follow a four-step process in preparing each cost estimate (see Figure 2):

1. Fully understand the legislation’s provisions.
2. Research the potential effects of enacting the legislation.
3. Analyze and quantify those effects.
4. Communicate the results.

Step One: Understand the Legislation

In the first step, analysts study the proposed legislation and assess the way it would change current law, often in consultation with the bill’s sponsors or authors to resolve ambiguities. Analysts also consult experts at federal agencies to understand how an agency might implement the bill and to determine whether the implications of the language are clear. The analysts focus on what is written—not just on intent—because the text of a law will govern how agencies implement it (although the perspectives of sponsors and other interested parties are helpful). Then they identify which specific provisions might have a budgetary effect compared with current law.

Step Two: Research Potential Effects

For legislation whose effects might be complicated or difficult to determine, the second step starts with analysts’ soliciting information about the bill’s potential budgetary effects from outside experts, who may include:

- Congressional staff, including committee staff and staff in the office of the bill’s sponsors;
- Staff members at affected federal agencies;
- Interested stakeholders, including people who work in state government, for interest groups, or in affected industries; and
- Other experts—at think tanks or in academia, for instance—who can provide knowledge about topics relevant to the proposal.

The analysts may also review academic research and historical data, depending on the subject matter and on

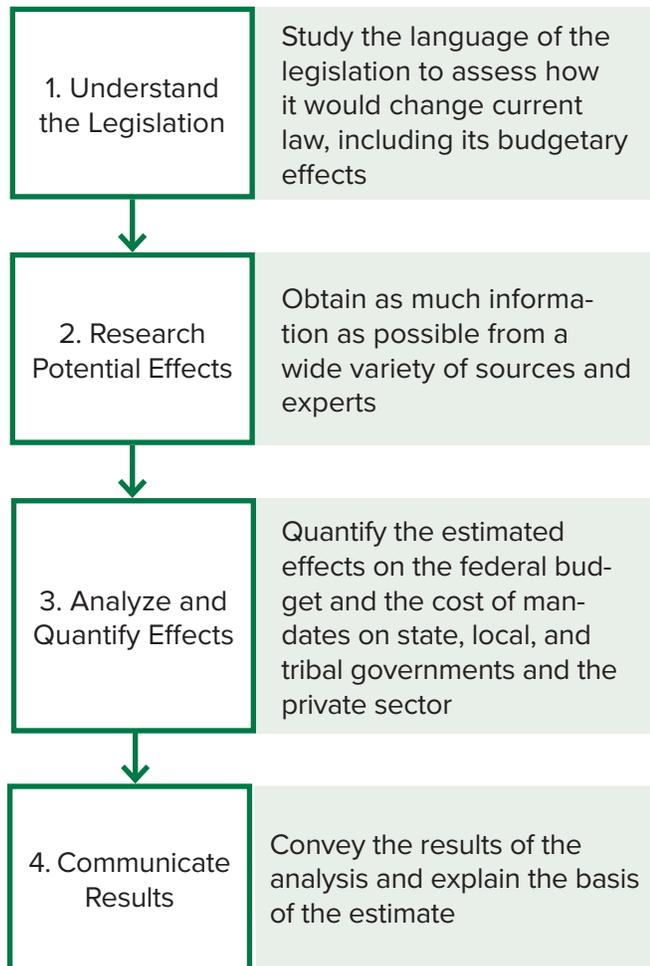
3. Congressional Budget Office, cost estimate for H.R. 68, Housing Fairness Act of 2022 (November 17, 2022), www.cbo.gov/publication/58795.

4. Congressional Budget Office, *CBO Explains Budgetary Scorekeeping Guidelines* (January 2021), www.cbo.gov/publication/56507, and Office of Management and Budget, “Appendix A—Scorekeeping Guidelines,” in *Preparation, Submission, and Execution of the Budget, Circular A-11* (July 2016), <https://go.usa.gov/xnGus>.

5. Congressional Budget Office, “CBO’s Activities Under the Unfunded Mandates Reform Act,” www.cbo.gov/publication/51335.

Figure 2.

CBO's Four-Step Process for Preparing Cost Estimates



whether such information is necessary and available in time to complete the estimate. In some cases, they consult publicly available government data and information. In others, they use data provided specifically at CBO's request. Some data sets are purchased from companies in the private sector.

Although CBO seeks input from a variety of outside experts who represent a range of views, the agency ultimately relies on its own expertise to determine the final methodology and assessments of the various factors necessary to complete an estimate. CBO provides as much information as possible about its sources of information

but does not release the names of the people it consults; some people, in fact, provide input only on condition of anonymity.

Step Three: Analyze and Quantify Effects

The third step is often the most complex and time-consuming. After research and data gathering are complete, CBO's analysts may use a variety of analytical tools, including spreadsheets and computer programs and models, to synthesize the information and produce point estimates (that is, specific dollar amounts) of the legislation's cost. At this step, analysts also identify any mandates imposed by the legislation on state, local, or tribal governments or the private sector and the costs to comply with them.

Analysts also may perform sensitivity analyses to determine how different inputs in their model generate ranges of possible outcomes under a given set of assumptions. CBO's cost estimates often represent the midpoint of such a range so that the estimate is just as likely to be too high as too low.

Because of the way some legislative proposals are written, their effects depend on whether some uncertain variable—for example, the price of crude oil or the rate of inflation or unemployment—reaches a specified threshold or “trigger” value. (CBO refers to such provisions as one-sided bets because they affect costs on only one side of the trigger value.)⁶ When developing cost estimates for those types of proposals, CBO must consider the likelihood and costs of multiple outcomes that lie outside the range of likely outcomes.

Sometimes, however, models cannot completely account for all the factors that would be affected by a particular proposal. Therefore, to produce estimates that are as close as possible to actual outcomes, analysts may adjust the modeling on the basis of what they have learned from experts and from the available research. No single approach works for all cases, and the best methodology depends on the question being addressed, the data available, and the time available to produce the cost estimate.

6. Congressional Budget Office, *Estimating the Cost of One-Sided Bets: How CBO Analyzes the Effects of Spending Triggers* (October 2020), www.cbo.gov/publication/56698.

Analysts may account for a variety of factors when estimating the effects of legislation:

- The most likely dates for possible enactment and implementation and the period in which the bill's provisions would be in effect, including whether schedules proposed for implementation are feasible and whether some time might be required for the bill's requirements to be fully phased in;
- How formulas for calculating benefit amounts and eligibility criteria would change;
- How states or affected industries would react to a bill's directives and respond to new incentives;
- How individuals would react to the bill's directives;
- Whether the authority to implement a proposal is complete or sufficient and whether directives or restrictions would work as intended;
- Whether the legislation would establish a statutory trigger for federal spending or revenues (for example, prices, fees, or interest rates that would be above or below a particular target) that would affect its cost; and
- Whether there might be unintended effects of the legislation on federal spending or revenues.

The analysis involves identifying the bill's most likely consequences for discretionary and mandatory spending and for revenues. Sometimes the budgetary nature of a provision is straightforward (for example, if it would authorize the appropriation of a specific amount of funds for a program or activity, change an entitlement formula, or impose a fee). In other cases, a provision would have less obvious effects on federal spending or revenues (for example, if it would convey income-producing property, authorize the leasing of facilities, change loan terms, or control the financing of federally mandated activities).

Typically, the Budget Committees are concerned with the effects on outlays rather than budget authority when enforcing various budgetary points of order and tracking current levels of spending, because outlays (along with revenues) directly affect the deficit. (Budget authority is the authority to incur financial obligations that result in federal outlays.) At times, though, the Budget Committees have also been concerned with the effects on budget authority when statutory caps were placed on discretionary budget authority.

To estimate discretionary outlays, analysts consider the nature of an activity and may consult a variety of sources

to estimate the rates at which authorized or appropriated funds would be obligated and spent. The rates at which funds are spent can vary considerably, depending on the purpose of the spending:

- Funds provided for budget accounts that cover mainly salaries and expenses are typically spent quickly. For example, 85 percent of the budget authority provided for such an account might be spent in the year it is provided, 10 percent in the second year, and the remaining 5 percent in the third year.
- Funds provided for accounts that finance other programs and activities, such as construction, are typically spent more slowly. For example, funding for such an account could be spent at a rate of 25 percent in the year the funds are provided, 40 percent in the second year, 25 percent in the third year, and the remaining amounts over the fifth through tenth years.
- In some cases, the funding's period of availability expires before the funds are entirely spent. As a result, the estimated outlays may not equal 100 percent of the authorized funding.

Estimates of mandatory outlays can depend on a number of variables. For example, for a program that provides benefits to individuals, mandatory outlays can depend on the extent to which eligible people will take up the benefit and the amount of those benefits each participant would receive. For such programs, the changes in budget authority often equal the changes in outlays.

In this third step, analysts also identify any provisions that would have no effect on federal spending or revenues (for example, because they would codify existing practices or address policies that do not affect the operation of federal agencies or programs).

Step Four: Communicate Results

CBO strives to be transparent, providing clear, concise explanations and detailing the key components of the basis of each cost estimate. The overarching goal is to make information accessible by providing context, explaining technical terms, and effectively using tables and occasionally figures. Sometimes, however, the pace of legislative activity or the complexity of the legislation leaves little or no time to provide such explanations or visual aids. The agency endeavors to find new ways to enhance the transparency of its cost estimates, all of which are posted on CBO's website.

How Does CBO Ensure That Its Cost Estimates Are Thorough and Objective?

Every cost estimate is subjected to internal review to ensure that the analysis is objective, thorough, consistent, and clearly presented and explained. In particular, CBO's baseline projections of spending and revenues must be consistent with its economic projections (and vice versa). And cost estimates must be consistent with those budget and economic projections. Such a framework for developing information that is interdependent and based on a common set of parameters helps to ensure that the agency's cost estimates are objective and analytically consistent. That consistency helps the Congress make decisions about legislation affecting disparate areas of the budget.

CBO's analysts, who are experts in their subject areas, must justify their methods and results, and they submit their supporting documentation to managers for review. Analysts frequently call upon outside experts, including people in the relevant federal agencies, to supply information and sometimes to share their own analyses, when they are available, for comparison.

What Budgetary Effects Do Cost Estimates Identify?

For discretionary spending (that is, for spending subject to appropriation), the cost estimate identifies the amount of appropriated funds that would be required to perform the activity or implement the program and the outlays that would result if those appropriations were subsequently provided.

For direct spending, the estimate identifies the budget authority and outlays for the mandatory program that would result from (or be changed by) enacting the bill, measured in relation to CBO's baseline projection for the program.

For revenues, the estimate identifies the amount of the increase or decrease that would occur in relation to CBO's baseline projection.

For legislation that would affect direct spending and revenues, the estimate identifies both of those effects and the net result for the deficit. When CBO identifies effects only on direct spending and revenues, it is an indication that subsequent legislation would not be required to implement such provisions. Any effects on discretionary

spending are considered separately because they would require subsequent appropriations and are not used in budget enforcement procedures.⁷

How Does CBO Measure the Budgetary Effects of Proposed Legislation?

CBO measures a bill's effects on direct spending and revenues relative to its baseline projections for the affected programs and revenue sources. The baseline is the agency's projections of spending, revenues, and deficits or surpluses that would occur in the current year and over the ensuing decade if federal laws that govern spending and taxes generally remained unchanged.⁸ Those projections are consistent with the agency's forecast for the nation's economy. The baseline can be used as a benchmark to determine whether proposed legislation is subject to various budget enforcement procedures.

CBO typically produces more than one baseline each year. The Budget Committees specify which baseline is used for budget enforcement and thus as the basis for CBO's cost estimates. In most cases, estimates throughout a year are measured in relation to the baseline that was used in the spring to develop the budget resolution, in order to be consistent with that resolution.

That baseline, however, is generally not applicable to estimates for legislation that would affect discretionary authorizations because baseline projections for individual discretionary programs in future years do not reflect current law. Instead, those projections typically reflect the assumption that appropriations for individual accounts will equal current-year appropriations, adjusted for inflation.

Current law for most discretionary programs consists of enacted appropriations for the current year and any amounts appropriated or authorized to be appropriated in the future. Many programs have no authorization after the current year, and lawmakers ordinarily do not provide appropriations beyond the current year. Thus, a

7. For more information about the federal budget process and budget enforcement procedures, see Congressional Budget Office, *Cash and Accrual Measures in Federal Budgeting* (January 2018), Box 1, p. 4, www.cbo.gov/publication/53461.

8. Congressional Budget Office, *CBO Explains How It Develops the Budget Baseline* (April 2023), www.cbo.gov/publication/58916.

bill that would extend the authorization for an existing discretionary program for another year would be shown as potentially increasing spending subject to appropriation in that year, even if the authorized funding was the same as the current year's appropriation, because that program would not be authorized under current law.

How Are Estimated Changes in Discretionary Spending Shown?

A bill considered by an authorizing committee may allow for future discretionary funding for agencies but usually does not actually provide (that is, appropriate) that money. Such bills may authorize spending in amounts that are specified, unspecified, or implied—typically using standard language for each case:

- For a specified authorization, "... there is authorized to be appropriated \$10 million for ...";
- For an unspecified authorization, "... there are authorized to be appropriated *such sums as are necessary* ..."; and
- For implied authorizations (for example, when legislation changes an agency's workload for activities funded by appropriation even if the bill does not specify a funding amount), "... the Department of the Interior *shall conduct* a review of the ...".

Cost estimates for legislation potentially affecting discretionary programs generally include a table that shows increases in spending subject to appropriation for the current year and the following five years; that is, the specified or estimated amount of funds authorized to implement the bill and the estimated outlays that would occur if those funds were provided in subsequent legislation. The text of the estimate usually compares those figures with amounts already authorized (if any) for the affected programs. In addition, for existing programs, such cost estimates usually compare the authorized funding with the most recent appropriation.

Because most discretionary programs are funded only for one year at a time, usually no current-law funding is available for future years. The cost estimate's projection of the requirement for future funding is unaffected by past appropriations.

How Are Estimated Changes in Mandatory Spending Shown?

A table is included in cost estimates for mandatory programs to show increases or decreases in direct spending in terms of estimated budget authority and resulting outlays for the current year and the following 10 years.

Does CBO Show All Budgetary Effects Using the Same Accounting Measures?

The two types of accounting measures that are used in the budget and that CBO uses when it prepares cost estimates—cash accounting and accrual accounting—differ primarily regarding the time at which the commitment of budgetary resources is recognized. Cash accounting records costs when the cash transactions resulting from federal commitments occur; accrual accounting records costs as a single number when commitments are made.

Currently, most federal activities are recorded in the budget on a cash basis; therefore, cost estimates related to those activities are shown on that basis. The major exception is federal credit programs, which, as required by the Federal Credit Reform Act of 1990, are recorded on an accrual basis. Federal retirement costs are recorded using a mix of cash and accrual measures.⁹

What About Estimates of Revenues?

Estimates of a legislative proposal's revenue effects arising from taxes or other receipts are prepared either by the staff of the Joint Committee on Taxation (JCT) or by CBO. Section 201(f) of the Budget Act stipulates that JCT's revenue estimates are the official estimates for legislative changes to income, estate and gift, excise, and payroll taxes considered by the Congress. Therefore, CBO incorporates JCT's estimates into its estimates of the effects of legislation. CBO produces revenue estimates for proposals that would affect unemployment insurance taxes, customs duties, miscellaneous fees, and earnings of the Federal Reserve System. CBO and JCT collaborate closely to avoid duplicating efforts on policies that affect both taxes and spending, and CBO often relies on JCT's expertise when developing cost estimates.

9. For more information, see Congressional Budget Office, *Budgeting for Federal Investment* (April 2021), www.cbo.gov/publication/56900, and *Cash and Accrual Measures in Federal Budgeting* (January 2018), www.cbo.gov/publication/53461.

What Information Does CBO Provide for Appropriation Bills?

CBO does not produce the same kind of written cost estimates for appropriation bills that it is required to produce (under section 402 of the Budget Act) for bills that *authorize* programs and activities that are funded by appropriation. However, section 308 of the Budget Act requires, in part, that CBO assist the House and Senate Budget Committees and Appropriations Committees in carrying out their responsibilities. As part of that assistance, CBO provides the Appropriations Committees with data and other information as they consider legislation. CBO also distributes reports to interested parties in the Congress that show account-level details of the budgetary effects of proposed appropriation legislation.

For annual appropriation bills, CBO provides detailed reports showing estimates of the discretionary budget authority provided and the outlays that would occur in that year, including the estimated budgetary effects of provisions that make changes in mandatory programs. Separately, CBO provides a tabulation of budgetary effects of those changes for each of the next 10 years. In addition, for appropriation bills that are ordered reported by a committee, CBO provides an estimate of the outlays resulting over the next 5 years from the budget authority provided in such bills.

For supplemental appropriation bills, CBO provides detailed reports to interested parties in the Congress and routinely publishes tables on its website showing estimated budget authority and outlays, in the current year and for an additional 10 years, resulting from such legislation. CBO also regularly updates historical information about supplemental appropriations; those updates are available on its website.¹⁰

Furthermore, to help the Congress track the effects of appropriation legislation as it moves through the process, CBO presents details of budgetary effects in what the agency calls current-status reports (on the “[Status of Appropriations](#)” page of its website), which reflect the latest stage of action for each appropriations subcommittee. Those reports are first provided when an appropriation bill is reported in the House or Senate and are updated as the bill progresses through the process.

10. Congressional Budget Office, “Status of Appropriations: Supplemental Appropriations: 2000–Present,” www.cbo.gov/topics/budget/status-appropriations.

CBO is currently developing a plan to make more of the account-level analysis of appropriation bills publicly available in an accessible format.

What Is Dynamic Analysis, and When Do Cost Estimates Include It?

Dynamic analysis accounts for changes in the total output of the economy. By contrast, and according to long-standing practice, CBO’s conventional cost estimates reflect the expectation that nominal gross domestic product (that is, output measured in current-year dollars) would not change and, as a result, total income would be roughly unchanged. Although those conventional cost estimates generally reflect the effects of people’s behavioral responses to legislative proposals, CBO undertakes dynamic analysis only in limited circumstances.

Although some major legislation can have significant macroeconomic consequences—for example, because it would affect the labor supply or private investment—most does not. The Congress has directed CBO to include dynamic analysis in its cost estimates, if practicable, when the gross budgetary effects of a bill would equal or exceed 0.25 percent of gross domestic product (the economy’s total output) in any year. The House or Senate Budget Committee may also ask CBO to perform a dynamic analysis when developing its cost estimates for other bills. Such estimates are complicated and often time-consuming, so they are difficult to prepare if legislation is moving quickly.¹¹

Even though most cost estimates do not reflect the macroeconomic effects of a particular bill, they do reflect (when relevant) the effects that changes in policy might have on people’s behavior that would, in turn, produce budgetary effects. For example, an estimate might account for the likelihood that people would take up a particular government benefit under a new law, the possibility that farmers would change what and how much they grow in response to a change in agriculture programs, or the ways that businesses might adjust their operations in response to a particular subsidy.

11. For more information, see Congressional Budget Office, “Dynamic Analysis,” www.cbo.gov/topics/dynamic-analysis, and “Frequently Asked Questions (FAQs): Does CBO Do ‘Dynamic Analysis?’,” www.cbo.gov/faqs#dynamic.

What Creates Uncertainty in Cost Estimates?

All of CBO's cost estimates are to some degree uncertain. For example, under current law—and even more so for prospective changes in law—it is difficult to project the amount of funding that will be required for certain mandatory programs. For programs such as Medicare, spending depends on the size and composition of the eligible population (which, in turn, changes with fluctuations in fertility, mortality, and immigration) and on participants' use of medical care. In another example, extreme weather events—flooding or drought, for instance—are impossible to predict and can affect not only spending for disaster relief but also the cost of programs that support farm income.

The effects of a new law can vary substantially depending on how it is implemented by a federal agency or another entity involved in administering the program (such as state governments or nongovernmental organizations), which can create uncertainty in the cost estimate. Estimating potential budgetary effects of new programs or major changes to existing programs is generally more uncertain than estimating the effects of modest changes to existing programs. In particular, the creation of a new program may have a wide range of foreseen and unforeseen outcomes, given uncertainties, for example, about the time it takes to implement such a program or whether people would be willing to take up a new benefit or comply with a new requirement. As needed, CBO includes a section to explain major sources of uncertainty in its estimates.

Considering the Uncertainty in Cost Estimates, Why Does CBO Provide Point Estimates?

CBO develops point estimates (specific dollar amounts) of the budgetary effects of legislation because they are necessary for the enforcement of budget rules during Congressional deliberations. Those rules are found in the Budget Act itself, in annual budget resolutions, in the Statutory Pay-As-You-Go Act of 2010, and in a host of parliamentary rules. For example, budget resolutions provide committees with allocations of funds expressed as point values, and the Budget Committees track the estimated budgetary effects of approved legislation using point values.

Does CBO Ever Revise Cost Estimates?

CBO revises and then reissues a cost estimate if the agency finds a computation error or if subsequent discussions indicate that the agency has misinterpreted the relevant legislative language. Such estimates are posted as revisions, and the changes are listed with reference to the earlier version. Revisions to estimates because of errors are rare, however—typically fewer than five per year, or less than one percent of CBO's cost estimates.

Why Might Cost Estimates for Similar Legislation Change Over Time?

CBO's estimates for similar legislative proposals may change if:

- Additional information from experts and stakeholders becomes available,
- CBO improves its methodology or obtains more current or complete information, or
- A new legislative proposal resembles but is not identical to an older one.

Sometimes enacted legislation will have budgetary consequences for a new proposal, or an agency or state might change the way it responds to or enforces regulations. Administrative actions (such as regulations and program memorandums) or court decisions also can change the content of or assumptions underlying a cost estimate. (When appropriate, a new estimate refers to prior work in the section concerning previous estimates.)

Each year, CBO updates the baseline that underlies its cost estimates, and the years spanned by estimates are changed at the same time. Therefore, an estimate for a bill in one year may be different from a prior estimate because of the updated baseline and projection period.

Although CBO does not typically issue revised cost estimates for the same legislation for those reasons, estimates at a subsequent stage in the legislative process or for a subsequent Congress would incorporate any changes to the estimated budgetary effects.

Does CBO Provide Technical Assistance Concerning Legislative Proposals?

At various points in the legislative process, Members of Congress or their staff may ask CBO to review and provide a preliminary estimate of the cost of legislation. In such cases, CBO may provide technical assistance *before* a legislative proposal is introduced or as amendments are considered (see Figure 1 on page 3).¹² CBO provides such assistance for several thousand proposals each year—mostly aiding committee staff. The information provided in those cases may be shown in a cost estimate if the proposal is later ordered reported by a committee.

CBO’s technical assistance is intended to aid the Congress as it develops and considers legislation. Any information provided through such assistance is preliminary, conveyed primarily through staff-to-staff communications, subject to revision, and considered confidential when a proposal is confidential. Such information is not approved by the Director, should not be considered official, and generally is not posted on CBO’s website. The agency does not provide confidential estimates for public bills (that is, bills introduced or posted on the websites of House or Senate leadership or on committees’ websites, or proposals that have been publicly specified); estimates for such legislation are made available to all interested parties.

12. Congressional Budget Office, “Technical Assistance,” www.cbo.gov/about/products#14.

Ann E. Futrell prepared this document with guidance from Theresa Gullo and Sam Papenfuss. Leigh Angres, Christina Hawley Anthony, Chad Chirico, Kathleen FitzGerald, Deborah Kilroe, John McClelland, and Emily Stern provided comments.

Mark Hadley, Jeffrey Kling, and Robert Sunshine reviewed the primer. Scott Craver edited it, and Jorge Salazar created the graphics and prepared the text for publication. The primer is available at www.cbo.gov/publication/59003.

CBO seeks feedback to make its work as useful as possible. Please send comments to communications@cbo.gov.